



## SEQUENCE LISTING

<110> Gish, Kurt  
Mack, David

<120> Novel Methods of Diagnosing Breast Cancer, Compositions, and Methods  
of Screening for Breast Cancer Modulators

<130> A-69028/DJB/JJD

<140> US 09/747,371

<141> 2000-12-21

<150> PCT/ US/00/06952

<151> 2000-03-15

<160> 4

<170> PatentIn version 3.0

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<212> DNA

<213> Homo sapiens

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<221> CDS

<222> (81)..(3080)

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gcc tgg gcg gtg ctg ctg ctg ctg ctg ctg cgc cca ctg ctg ctg      161
Ala Trp Ala Val Leu Leu Leu Leu Leu Leu Pro Pro Leu Leu Leu
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ctg gcg ggg gcc gtc cgc cgc ggt cgg ggc cgt gcc gcg ggg cgc cag      209
Leu Ala Gly Ala Val Pro Pro Gly Arg Gly Arg Ala Ala Gly Pro Gln
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gag gat gta gat gag tgt gcc caa ggg cta gat gac tgc cat gcc gac      257
Glu Asp Val Asp Glu Cys Ala Gln Gly Leu Asp Asp Cys His Ala Asp
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gcc ctg tgt cag aac aca ccc acc tcc tac aag tgc tcc tgc aag cct      305
Ala Leu Cys Gln Asn Thr Pro Thr Ser Tyr Lys Cys Ser Cys Lys Pro
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Gly Tyr Gln Gly Glu Gly Arg Gln Cys Glu Asp Ile Asp Glu Cys Gly
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Asn Glu Leu Asn Gly Gly Cys Val His Asp Cys Leu Asn Ile Pro Gly
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His Asn Cys Leu Asp Val Asp Glu Cys Leu Asn Asn Gly Gly Cys	
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Glu Gly Phe Phe Leu Ser Asp Asn Gln His Thr Cys Ile His Arg Ser	
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Cys Lys Glu Ala Pro Arg Gly Ser Val Ala Cys Glu Cys Arg Pro Gly	
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Thr Ser Val Val Asp Gly Asp Lys Arg Val Lys Arg Arg Leu Leu Met	
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Glu Thr Cys Ala Val Asn Asn Gly Gly Cys Asp Arg Thr Cys Lys Asp	
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Leu Asp Gly Lys Thr Cys Lys Asp Ile Asp Glu Cys Gln Thr Arg Asn	
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Gly Gly Cys Asp His Phe Cys Lys Asn Ile Val Gly Ser Phe Asp Cys	
335 340 345	
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	Asn His Pro Gly Thr Phe Ala Cys Ala Cys Asn Arg Gly Tyr Thr Leu	
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	Tyr Gly Phe Thr His Cys Gly Asp Thr Asn Glu Cys Ser Ile Asn Asn	
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	Gln Cys His Pro Gly Tyr Lys Leu His Trp Asn Lys Lys Asp Cys Val	
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	His Cys Gly Lys Ser Gly Gly Gly Asp Gly Cys Phe Leu Arg Cys His	
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	Ser Gly Ile His Leu Ser Ser Asp Val Thr Thr Ile Arg Thr Ser Val	
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	Val Pro Gly Ala Pro Gly Arg Pro Ser Thr Pro Lys Glu Met Phe Ile	
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Cys Ala Gln Gly Leu Asp Asp Cys His Ala Asp Ala Leu Cys Gln Asn  
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Thr Pro Thr Ser Tyr Lys Cys Ser Cys Lys Pro Gly Tyr Gln Gly Glu  
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Gly Arg Gln Cys Glu Asp Ile Asp Glu Cys Gly Asn Glu Leu Asn Gly  
 85 90 95

Gly Cys Val His Asp Cys Leu Asn Ile Pro Gly Asn Tyr Arg Cys Thr  
 100 105 110

Cys Phe Asp Gly Phe Met Leu Ala His Asp Gly His Asn Cys Leu Asp  
 115 120 125

Val Asp Glu Cys Leu Glu Asn Asn Gly Gly Cys Gln His Thr Cys Val  
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Asn Val Met Gly Ser Tyr Glu Cys Cys Cys Lys Glu Gly Phe Phe Leu  
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Ser Asp Asn Gln His Thr Cys Ile His Arg Ser Glu Glu Gly Leu Ser  
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Cys Met Asn Lys Asp His Gly Cys Ser His Ile Cys Lys Glu Ala Pro  
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Arg Gly Ser Val Ala Cys Glu Cys Arg Pro Gly Phe Glu Leu Ala Lys  
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Asn Gln Arg Asp Cys Ile Leu Thr Cys Asn His Gly Asn Gly Gly Cys  
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Gln His Ser Cys Asp Asp Thr Ala Asp Gly Pro Glu Cys Ser Cys His  
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Pro Gln Tyr Lys Met His Thr Asp Gly Arg Ser Cys Leu Glu Arg Glu  
245 250 255

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Gly Asp Lys Arg Val Lys Arg Arg Leu Leu Met Glu Thr Cys Ala Val  
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Asn Asn Gly Gly Cys Asp Arg Thr Cys Lys Asp Thr Ser Thr Gly Val  
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His Cys Ser Cys Pro Val Gly Phe Thr Leu Gln Leu Asp Gly Lys Thr  
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Cys Lys Asp Ile Asp Glu Cys Gln Thr Arg Asn Gly Gly Cys Asp His  
325 330 335

Phe Cys Lys Asn Ile Val Gly Ser Phe Asp Cys Gly Cys Lys Gly  
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Phe Lys Leu Leu Thr Asp Glu Lys Ser Cys Gln Asp Val Asp Glu Cys  
355 360 365

Ser Leu Asp Arg Thr Cys Asp His Ser Cys Ile Asn His Pro Gly Thr  
370 375 380

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Cys Gly Asp Thr Asn Glu Cys Ser Ile Asn Asn Gly Gly Cys Gln Gln  
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Tyr Lys Leu His Trp Asn Lys Lys Asp Cys Val Glu Val Lys Gly Leu  
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Leu Pro Thr Ser Val Ser Pro Arg Val Ser Leu His Cys Gly Lys Ser

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455

460

Gly Gly Gly Asp Gly Cys Phe Leu Arg Cys His Ser Gly Ile His Leu  
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Asn Leu Asp Val Ala Lys Lys Pro Pro Arg Thr Ser Glu Arg Gln Ala  
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Cys Arg Ala Gly Thr Tyr Tyr Asp Gly Ala Arg Glu Arg Cys Ile Leu  
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Cys Pro Asn Gly Thr Phe Gln Asn Glu Glu Gly Gln Met Thr Cys Glu  
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Pro Cys Pro Arg Pro Gly Asn Ser Gly Ala Leu Lys Thr Pro Glu Ala  
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Trp Asn Met Ser Glu Cys Gly Gly Leu Cys Gln Pro Gly Glu Tyr Ser  
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Ala Asp Gly Phe Ala Pro Cys Gln Leu Cys Ala Leu Gly Thr Phe Gln  
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Pro Glu Ala Gly Arg Thr Ser Cys Phe Pro Cys Gly Gly Gly Leu Ala  
725 730 735

Thr Lys His Gln Gly Ala Thr Ser Phe Gln Asp Cys Glu Thr Arg Val  
740 745 750

Gln Cys Ser Pro Gly His Phe Tyr Asn Thr Thr Thr His Arg Cys Ile  
755 760 765

Arg Cys Pro Val Gly Thr Tyr Gln Pro Glu Phe Gly Lys Asn Asn Cys  
770 775 780

Val Ser Cys Pro Gly Asn Thr Thr Thr Asp Phe Asp Gly Ser Thr Asn  
785 790 795 800

Ile Thr Gln Cys Lys Asn Arg Arg Cys Gly Gly Glu Leu Gly Asp Phe  
805 810 815

Thr Gly Tyr Ile Glu Ser Pro Asn Tyr Pro Gly Asn Tyr Pro Ala Asn  
820 825 830

Thr Glu Cys Thr Trp Thr Ile Asn Pro Pro Pro Lys Arg Arg Ile Leu  
835 840 845

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850 855 860

Tyr Leu Val Met Arg Lys Thr Ser Ser Ser Asn Ser Val Thr Thr Tyr  
865 870 875 880

Glu Thr Cys Gln Thr Tyr Glu Arg Pro Ile Ala Phe Thr Ser Arg Ser  
885 890 895

Lys Lys Leu Trp Ile Gln Phe Lys Ser Asn Glu Gly Asn Ser Ala Arg  
900 905 910

Gly Phe Gln Val Pro Tyr Val Thr Tyr Asp Glu Asp Tyr Gln Glu Leu  
915 920 925

Ile Glu Asp Ile Val Arg Asp Gly Arg Leu Tyr Ala Ser Glu Asn His  
930 935 940

Gln Glu Ile Leu Lys Asp Lys Lys Leu Ile Lys Ala Leu Phe Asp Val  
945 950 955 960

Leu Ala His Pro Gln Asn Tyr Phe Lys Tyr Thr Ala Gln Glu Ser Arg  
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Arg Phe Leu Arg Pro Tyr Lys  
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Gln Gly Leu Asp Asp Cys His Ala Asp Ala Leu Cys Gln Asn Thr Pro  
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Thr Ser Tyr Lys Cys Ser Cys Lys Pro Gly Tyr Gln Gly Glu Gly Arg  
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Gln Cys Glu Asp Met Asp Glu Cys Asp Asn Thr Leu Asn Gly Gly Cys  
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Val His Asp Cys Leu Asn Ile Pro Gly Asn Tyr Arg Cys Thr Cys Phe  
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Asp Gly Phe Met Leu Ala His Asp Gly His Asn Cys Leu Asp Met Asp  
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Glu Cys Leu Glu Asn Asn Gly Gly Cys Gln His Ile Cys Thr Asn Val  
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Ile Gly Ser Tyr Glu Cys Arg Cys Lys Glu Gly Phe Phe Leu Ser Asp  
145 150 155 160

Asn Gln His Thr Cys Ile His Arg Ser Glu Glu Gly Leu Ser Cys Met  
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Asn Lys Asp His Gly Cys Gly His Ile Cys Lys Glu Ala Pro Arg Gly  
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Ser Val Ala Cys Glu Cys Arg Pro Gly Phe Glu Leu Ala Lys Asn Gln

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 545 550 555 560  
 Thr Tyr Glu Lys Glu Val Thr Ala Ser Cys Asn Leu Ser Cys Val Val  
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 Lys Arg Thr Glu Lys Arg Leu Arg Lys Ala Leu Arg Thr Leu Lys Arg  
 580 585 590  
 Ala Ala His Arg Glu Gln Phe His Leu Gln Leu Ser Gly Met Asp Leu  
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 Cys Gly Val Gly Gln Gly His Glu Glu Ser Gln Cys Val Ser Cys Arg  
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 Pro Arg Pro Glu Asn Leu Gly Ser Leu Lys Ile Ser Glu Ala Trp Asn  
 675 680 685  
 Val Ser Asp Cys Gly Gly Leu Cys Gln Pro Gly Glu Tyr Ser Ala Asn  
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 725 730 735  
 His Leu Gly Ala Thr Ser Phe Gln Asp Cys Glu Thr Arg Val Gln Cys  
 740 745 750  
 Ser Pro Gly His Phe Tyr Asn Thr Thr Thr His Arg Cys Ile Arg Cys  
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 770 775 780  
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 Tyr Ile Glu Ser Pro Asn Tyr Pro Gly Asn Tyr Pro Ala Asn Ser Glu  
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 Cys Thr Trp Thr Ile Asn Pro Pro Pro Lys Arg Arg Ile Leu Ile Val  
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Val Pro Glu Ile Phe Leu Pro Ile Glu Asp Asp Cys Gly Asp Tyr Leu  
850 855 860

Val Met Arg Lys Thr Ser Ser Ser Asn Ser Val Thr Thr Tyr Glu Thr  
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Cys Gln Thr Tyr Glu Arg Pro Ile Ala Phe Thr Ser Arg Ser Lys Lys  
885 890 895

Leu Trp Ile Gln Phe Lys Ser Asn Glu Gly Asn Ser Ala Arg Gly Phe  
900 905 910

Gln Val Pro Tyr Val Thr Tyr Asp Glu Asp Tyr Gln Glu Leu Ile Glu  
915 920 925

Asp Ile Val Arg Asp Gly Arg Leu Tyr Ala Ser Glu Asn His Gln Glu  
930 935 940

Ile Leu Lys Asp Lys Lys Leu Ile Lys Ala Leu Phe Asp Val Leu Ala  
945 950 955 960

His Pro Gln Asn Tyr Phe Lys Tyr Thr Ala Gln Glu Ser Arg Glu Met  
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<223> Cytokine receptor extracellular motif found in many species.

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<221> UNSURE

<222> (3)..(3)

<223> "Xaa" at position 3 can be any amino acid.

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